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(71) Applicant (for all designated States except US): **TELEFONAKTIEBOLAGET LM ERICSSON (publ)** [SE/SE]; S-164 83 Stockholm (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SVENSSON, Bengt** [SE/SE]; Muraregatan 10, S-431 66 Mölndal (SE). **FALK, Kent** [SE/SE]; Konsertvägen 29, S-435 44 Mölnlycke (SE). **ENGSTRÖM, Ulrika** [SE/SE]; Spaldingsgatan 13, S-412 59 Göteborg (SE).

(74) Agent: **AROS PATENT AB**; P.O. Box 1544, S-751 45 Uppsala (SE).

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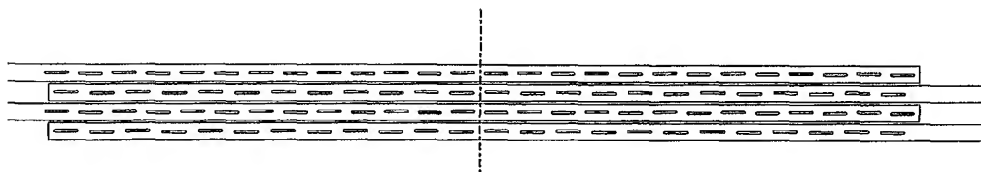
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(54) Title: SCANABLE SPARSE ANTENNA ARRAY

Wg #1
Wg #2
Wg #3
Wg #4



Symmetry line

(57) **Abstract:** A sparse array antenna is disclosed. The antenna comprises series-fed antenna array columns tuned to a respective transmit and receive frequency. The transmitting and receiving radiation elements are formed with a given distance between each transmitting radiator element and each receiving radiator element, and the series-fed antenna columns are arranged in parallel, perpendicular to a symmetry line forming a symmetric interleaved transmit/receive array. Furthermore the receiving array columns operate as parasitic elements in a transmit mode and transmitting array columns operate as a parasitic elements in a receive mode, thereby reducing creation of grating lobes. The created sparse array antenna may further be arranged to be scanable to also provide reduced sidelobes entering visual space when scanning the main radiation lobe from an off boresight direction. Typically the series-fed array columns may be formed as extended ridged slotted wave-guides tuned to a respective transmitting or receiving frequency.

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